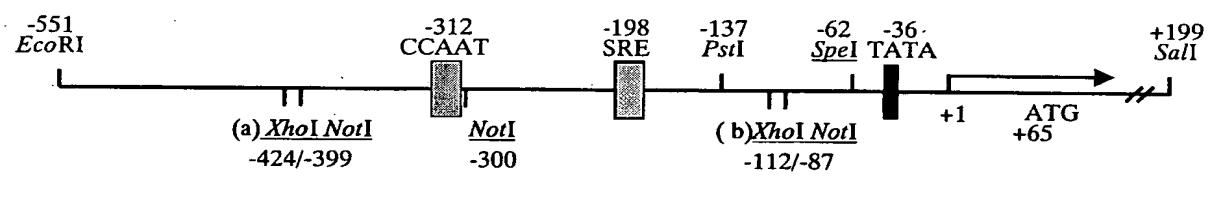


Fig.1

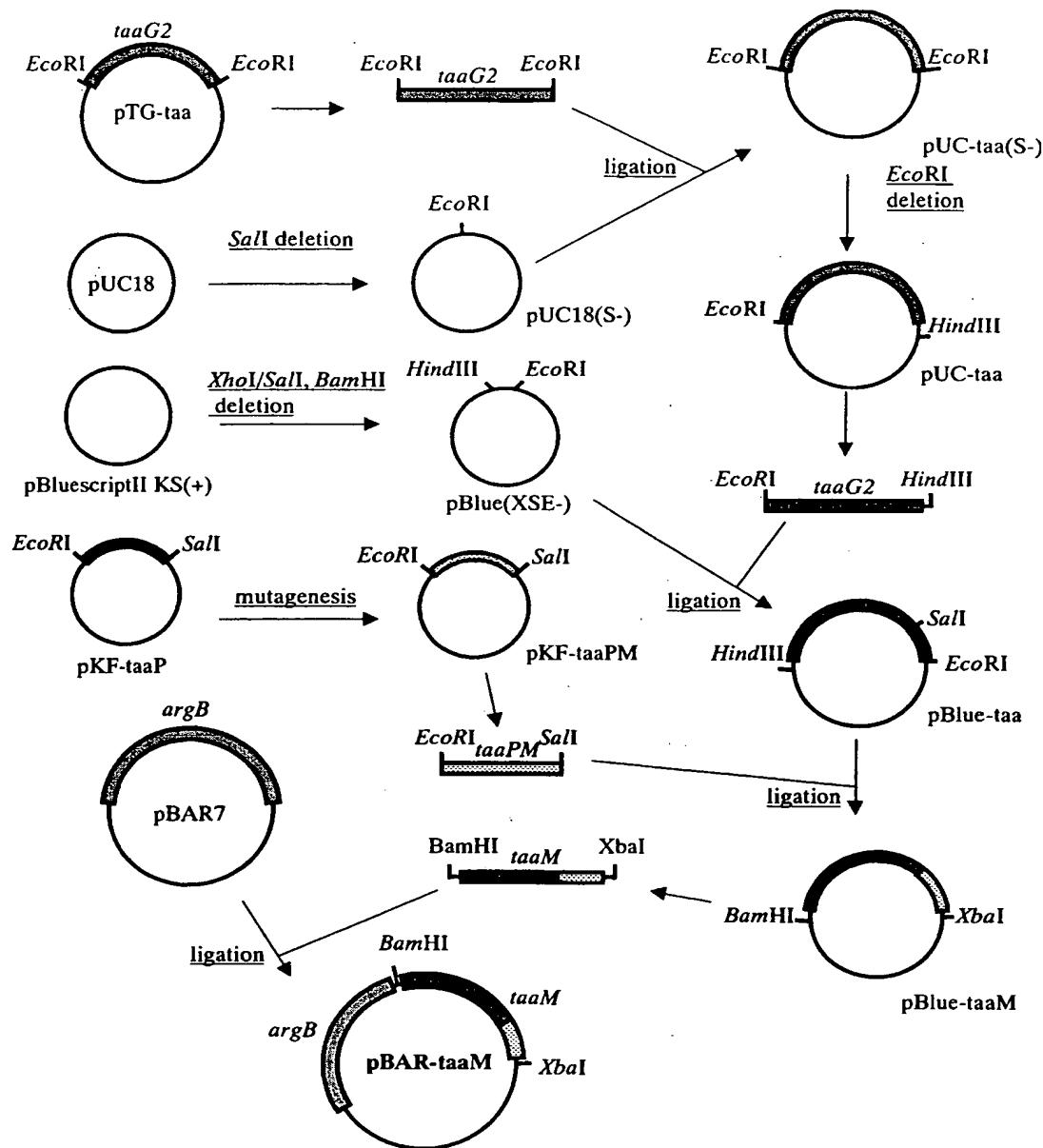
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121 TGCAAGACCA AAGTAGTAAA ACCCCGGAGT CAACAGCAGT CAAGCCCAAG TCCTTCACGG 180
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301 CAACGCTGAT CACGGGCAGC GATCCAACCA ACACCCCTCCA GAGTGACTAG GGGCGGAAAT 360
361 TTAAAGGGAT TAATTTCCAC TCAACCACAA ATCACAGTCG TCCCCGGTAT TGTCCTGCAG 420
421 AATGCAATTG AAAACTCTTCT GCGAATCGCT TGGATTCCCC GCCCCTGGCC GTAGAGCTTA 480
481 AAGTATGTCC CTTGTCGATG CGATGTATCA CAACATATAA ATACTAGCAA GGGATGCCAT 540
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601 CCACAGAAGG CATT 615

Fig.2



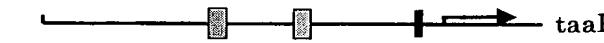
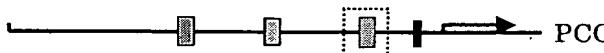
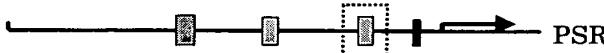
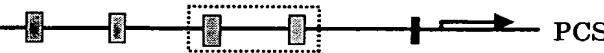
- [] : CCAAT sequence (binding factor of a wide domain transcription activation factor (HAP complex))
- [] : SRE(binding factor of a transcription activation factor of a starch degrading enzyme gene cluster (AmyR))
- [] : TATA-box
- +1 : transcription initiation site

Fig.3



taaG2 : Taka-amylase A gene
argB : ornithine carbamoyltransferase gene (selection marker)
taaM : Taka-amylase including modified promoter

Fig.4

	Amylase Activity (U/g dry mycelia)	(ratio)
 taaP	1041	1
 PCCAATb	786	0.8
 PSREb	1319	1.3
 PCSP	4269	4.1

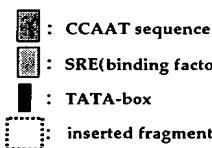
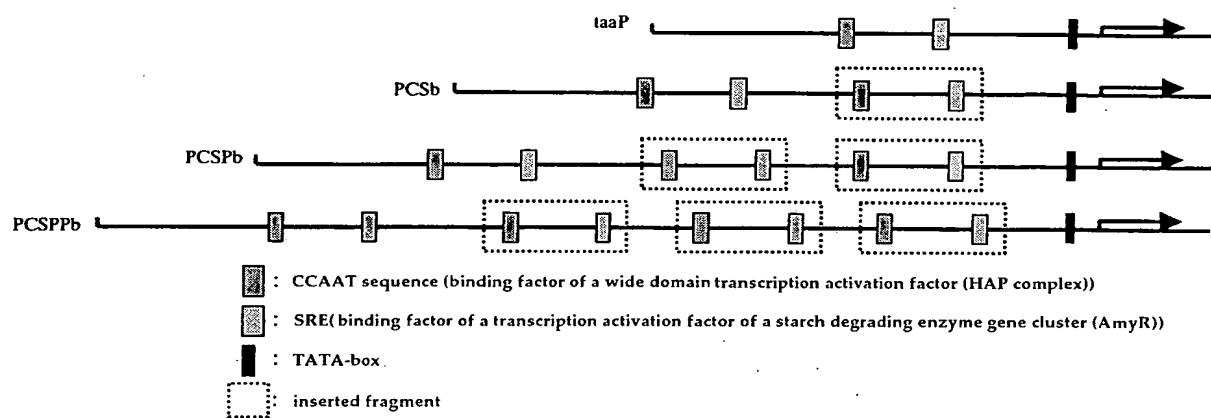
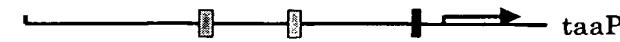
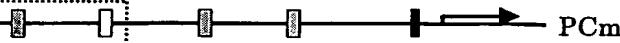
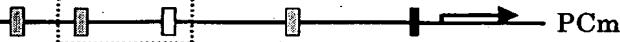

■ : CCAAT sequence (binding factor of a wide domain transcription activation factor (HAP complex))
■ : SRE(binding factor of a transcription activation factor of a starch degrading enzyme gene cluster (AmyR))
■ : TATA-box
□ : inserted fragment

Fig.5



Promoter	Amylase Activity			
	Starch		Glucose	
	(U/g dry mycelia)	(ratio)	(U/g dry mycelia)	(ratio)
taaP	916	1	25	1
PCSb	4601	5.0	601	24.1
PCSPb	6455	7.0	740	29.6
PCSPPb	7084	7.7	941	37.7

Fig. 6

	Amylase Activity (U/g dry mycelia)	(ratio)
	1041	1
	2178	2.1
	1047	1.0
	3237	3.2
	2130	2.0

 : CCAAT sequence (binding factor of a wide domain transcription activation factor (HAP complex))
 : SRE (binding factor of a transcription activation factor of a starch degrading enzyme gene cluster (AmyR))
 : modified SRE
 : TATA-box
 : inserted fragment

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Fig. 7

Strain	Copy Number	Amount of Amylase	
		(g/L)	(ratio)
ABPU1	0	0.01	
taa2	1	0.29	1
CSb17	1	1.46	5.0
CSb16	multiple	9.90	34.1
CSP6	multiple	6.41	22.1
CSPb19	multiple	7.35	25.3

ABPU1 ; host taa2 ; wild type promoter

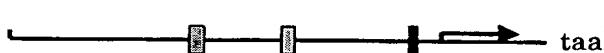
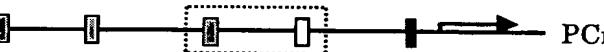
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Fig. 8

Strain	Amount of Amylase (g/L)		
	SPY medium	MPY medium	GPY medium
CSP6	6.41	4.86	2.94
CSPb19	7.35	5.25	6.25

The production amount of amylase is shown as a conversion value as compared with the specific activity of Taka-amylase is 100 U/mg.

Fig. 9

	Amylase Activity (U/g dry mycelia)	(ratio)
 taaP	1041	1
 PCmSb	3237	3.2
 PsCmSb	1634	1.6

-  : CCAAT sequence (binding factor of a wide domain transcription activation factor (HAP complex))
-  : SRE(binding factor of a transcription activation factor of a starch degrading enzyme gene cluster (AmyR))
-  : modified SRE
-  : TATA-box
-  : inserted fragment

Fig. 1 0

SRE sequence		Amylase Activity (U/g dry mycelia)		(ratio)
CGGAAATTAAAGG	taaP	1041	1	
CGGAAATT <u>AA<u>CGG</u></u>	taaS	1209	1.2	
CGGAAATT <u>AA<u>ATTA</u></u>	MSRE2	792	0.8	

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Fig. 1 1

Promoter	Amylase Activity			
	<i>A. oryzae</i> KBN616		<i>A. oryzae</i> KBN6217	
	(U/g mycelia)	(ratio)	(U/g mycelia)	(ratio)
non-recombinant strain	377	1	13003	1
PCSPb	21702	57.6	137179	10.6

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Fig. 1 2

Promoter	Laccase Activity	
	(Δ O.D. / 0.1ml)	(ratio)
non-recombinant strain	0	-
taaP	174	1
PCSPb	136	0.8
PCSPPb	281	1.6

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